

BXTR 4021
PATENT

Amendments to the Claims:

Please enter amendments to the claims as indicated in the following claim listing, which replaces all previous claim listings:

1. (Presently amended) A method of connecting together two sections of tubing comprising the steps of:

placing the two tubing sections in opposed, end-to-end relation so that axially facing surfaces of the tube sections at the ends are free from exposure to the surrounding environment; and then

directing an electromagnetic beam generally toward the location where the axially facing surfaces are in opposed, end-to-end relation ~~for~~ and thereby welding the two sections of tubing together at the location,

wherein during the step of placing the two tubing sections in opposed, end-to-end relation, the temperature of each of the tubing sections at the axial surfaces thereof is below the melting temperature of material forming the tubing section.

2. (Cancelled)

3. (Original) A method as set forth in claim 1 further comprising providing material for absorbing energy from the electromagnetic beam at the ends of the tubing sections where connection is to occur for use in fusing the tubing sections
5 together.

BXTR 4021
PATENT

4. (Original) A method as set forth in claim 3 wherein
said step of providing material for absorbing energy comprises
positioning a sheet of material between the axial surfaces at
the ends of the tubing sections, the sheet being formed of a
5 material which absorbs the energy of the electromagnetic beam.

5. (Original) A method as set forth in claim 4 wherein
the tubing sections are formed of a material which is
substantially transparent to the electromagnetic beam.

10 6. (Original) A method as set forth in claim 3 further
comprising, following the step of directing an electromagnetic
beam, the step of moving the tubing sections toward each other
causing some material of the tubing sections to flow radially
15 outwardly.

7. (Original) A method as set forth in claim 3 wherein
the step of providing an absorbing material comprises applying a
dye to the axially facing surface of at least one of the tubing
sections, the dye being selected to increase absorption of
5 energy from the electromagnetic beam to promote fusion of the
tubing sections at the axially facing surfaces.

8. (Original) A method as set forth in claim 7 wherein
the step of placing the two tubing sections in opposed, end-to-
end relation includes bringing the axially facing surfaces of
the tubing sections into engagement with each other.

BXTR 4021
PATENT

9. (Original) A method as set forth in claim 3 further comprising, prior to the step of placing the two tubing sections in opposed, end-to-end relation, the step of positioning the two tubing sections in substantially coaxial position and cutting
5 off end portions of the tubing sections.

10. (Original) A method as set forth in claim 9 further comprising clamping cut end margins of the two tubing sections closed.

11. (Original) A method as set forth in claim 10 further comprising welding each of the closed cut end margins to seal interior passages of the tubing section.

12. (Previously presented) A method as set forth in claim 11 wherein the step of welding each of the closed cut end margins comprises directing a beam of electromagnetic radiation onto a block in contact with the closed cut end margin, the
5 block absorbing energy from the electromagnetic beam and transferring heat to the tubing section with which it is in contact.

13. (Original) A method as set forth in claim 11 further comprising, following the step of directing an electromagnetic beam, the step of reopening the closed end margins of the joined tubing sections by squeezing the tubing sections.

14. (Original) A method as set forth in claim 13 further comprising, following the step of directing an electromagnetic

BXTR 4021
PATENT

beam and prior to the step of reopening the closed end margins,
the step of shipping the connected tubing sections to a remote
5 location.

15. (Original) A method as set forth in claim 11 wherein
all of the steps are carried out with the tubing sections in
said substantially coaxial position.

16. (Original) A method as set forth in claim 1 further
comprising, following the step of directing an electromagnetic
beam, the step of moving the tubing sections toward each other
causing some material of the tubing sections to flow radially
5 outwardly.

17. (Original) A method as set forth in claim 1 wherein
the step of directing an electromagnetic beam comprises
directing a laser beam toward the location where the axially
facing surfaces are in opposed, end-to-end relation.

18-22. (Cancelled)

23. (Previously presented) A method as set forth in claim
13 wherein said step of providing material for absorbing energy
5 comprises positioning a sheet of material between the axial
surfaces at the ends of the tubing sections, the sheet being
capable of absorbing the energy of the electromagnetic beam.

24. (New) A method of connecting together two sections of
tubing comprising the steps of:

BXTR 4021
PATENT

placing the two tubing sections in opposed, end-to-end
relation so that axially facing surfaces of the tube sections at
5 the ends are free from exposure to the surrounding environment;
and then

directing an electromagnetic beam generally toward the
location where the axially facing surfaces are in opposed, end-
to-end relation and thereby welding the two sections of tubing
10 together at the location,

wherein the electromagnetic beam is directed toward the end
of either of the two tubing sections to bring the axially facing
surface of either tubing section above a melting temperature of
a material of the tubing section only after the step of placing
15 the two tubing sections in opposed, end-to-end relation so that
the axially facing surfaces of the tube sections at the ends are
free from exposure to the surrounding environment.